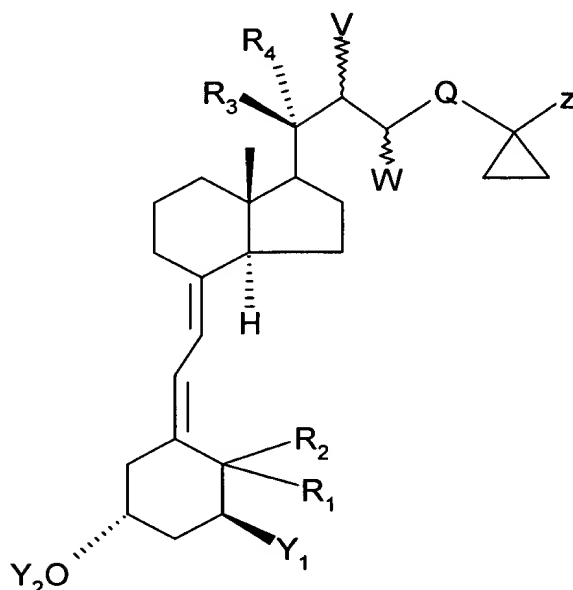


The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented): A vitamin D compound of formula I,



in which

Y_1 means a hydrogen atom, a hydroxyl group, a fluorine, chlorine or bromine atom or a group $-OCOR_8$, in which

R_8 is an aliphatic or aromatic radical with 1 to 12 C atoms,

Y_2 means a hydrogen atom or a group $-(CO)R_9$, in which

R_9 is an aliphatic or aromatic radical with 1 to 12 C atoms,

R_1 and R_2 are together an exocyclic methylene group,

R_3 and R_4 , independently of one another, mean a hydrogen atom or an alkyl group with 1 to 4 carbon atoms,

V and W together mean an E-double bond,

Q means a straight-chain or branched carbon unit with up to 10 carbon atoms, which at any position can have α - or β -hydroxyl groups, which in turn can be etherified or esterified, keto groups, amino groups or halogen atoms,

Z means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have keto groups, α - or β -hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms wherein Q is not -CHOH-.

2. (Previously Presented): A compound according to claim 1, wherein Q means an unsubstituted, unbranched alkylene unit with 1 or 2 carbon atoms, and Z means a straight-chain 1-oxoalkyl radical.

3. (Previously Presented): A compound according to claim 1, wherein Q means a -CH(OH)-CH₂-CH₂ radical, and Z means a straight-chain 1-oxoalkyl radical.

4. (Cancelled):

5. (Currently Amended): A compound selected from:

(5Z,7E,22E)-(1S,3R)-25-Acetyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-acetyl-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-25-acetyl-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-acetyl-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-

secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-
 secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-

9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,
 (5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-
 9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,
 (5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-
 9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,
 (5Z,7E,22E)-(1S,3R,24S)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24S)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,
 (5Z,7E,22E)-(1S,3R,24R)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-
 tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-
5,7,10(19),22-tetraene-1,3,24-triol,

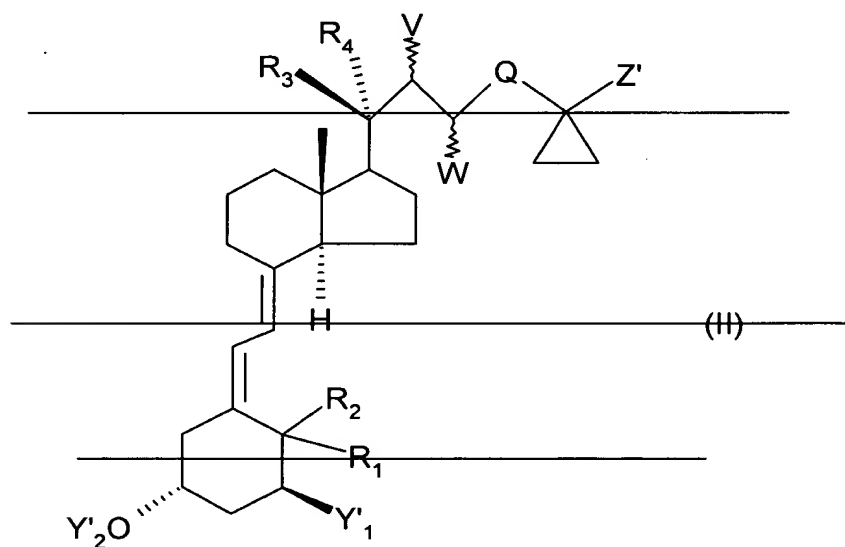
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,



[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

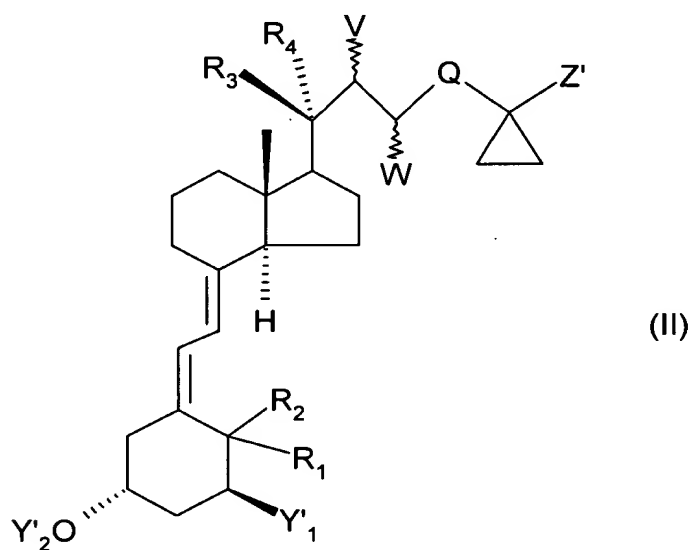
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol, and

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol.

6. (Previously Presented): A process for the production of compounds according to claim 1, comprising:

converting a compound of formula II



in which

Y₁' means a hydrogen atom, a halogen atom, or a protected hydroxyl group,

Y₂' means a hydroxy protective group, and

Z' means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have protected keto groups,

protected α - or β -hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms

into a compound of formula I by simultaneous or successive cleavage of the hydroxy and keto protective groups and optionally by partial or complete esterification of free hydroxyl groups.

7. (Cancelled):

8. (Withdrawn): A method for treating a patient suffering from hyperproliferative diseases of the skin, pruritus, tumor diseases, precancerous stages, disorders of the immune system, inflammatory diseases, rheumatoid arthritis, asthma, auto-immune diseases, multiple sclerosis, diabetes mellitus, AIDS, or rejection reactions associated with autologous, allogeneic or xenogeneic transplants comprising administering to said patient an effective amount of a compound according to claim 1.

9. (Withdrawn): A method according to claim 8, wherein said compound is administered in combination with other substances that have an immunosuppressive action.

10. (Withdrawn): A method for treating a patient suffering from secondary hyperparathyroidism, renal osteodystrophia, senile and postmenopausal osteoporosis, diabetes mellitus type II, or degenerative diseases of the peripheral and central nervous system comprising administering to said patient an effective amount of a compound according to claim 1.

11. (Withdrawn): A method for treating a patient suffering from hypercalcemias or granulomatous diseases, paraneoplastic hypercalcemias, hypercalcemia in the case of hyperparathyroidism, hirsutism, arteriosclerosis, or inflammatory diseases comprising administering to said patient an effective amount of a compound according to claim 1.

12. (Cancelled):

13. (Cancelled);

14. (Previously Presented): A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.
15. (Withdrawn): A method according to claim 9, wherein said other substance is selected from cyclosporin A, FK 506, rapamycin and anti-CD 4 antibodies.
16. (Withdrawn): A method for regulating hair growth in a patient comprising administering to said patient an effective amount of a compound according to claim 1.
17. (Withdrawn): A method of providing birth control to a male or female patient comprising administering to said patient a compound according to claim 1.
18. (Withdrawn): A method of inducing an immunostimulant effect in a patient comprising administering to said patient a compound according to claim 1.
19. (Previously Presented): A vitamin D compound wherein said compound is:
(5Z, 7E, 22E)-(1S, 3R, 24S)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
(5Z, 7E, 22E)-(1S, 3R, 24R)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
[5Z, 7E, 22E, 25(Z)]-(1S, 3R, 24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
[5Z, 7E, 22E, 25(E)]-(1S, 3R, 24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
[5Z, 7E, 22E, 25(E)]-(1S, 3R, 24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
(5Z, 7E, 22E)-(1S, 3R, 24S)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
(5Z, 7E, 22E)-(1S, 3R, 24R)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,
(5Z, 7E, 22E)-(1S, 3R, 24S)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z, 7E, 22E, 25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol, or

[5Z, 7E, 22E, 25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol.

20. (Cancelled):

21. (Previously Presented): A compound according to claim 1, wherein R₃ is H and R₄ is methyl, R₃ is methyl and R₄ is H, or R₃ is methyl and R₄ is methyl.

22. (Previously Presented): A compound according to claim 1, wherein R₈ and R₉ are each independently methyl, ethyl, propyl, i-propyl, butyl or phenyl.

23. (Previously Presented): A compound according to claim 1, wherein Q is -CH₂-, -(CH₂)₂-, -(CH₂)₃-, -(CH₂)₄-, -(CH₂)₇-, -CH₂-C(CH₃)₂-CH₂-, -CH₂-CH(CH₃)-CH₂-CH(CH₃)-CH₂-, -CH₂-CH(OH)-, -CH₂-CH₂-CH(OH)-, -CH(OH)-CH₂-, -CH(OH)-CH₂-CH₂-, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-, -CH₂-CH(OH)-CH₂-, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-, -CH(OCH₃)-, -CH₂-CH(OC₂H₅)-, -CH₂-CH(OCOCH₃)-CH₂-CH(OCOCH₃)-CH₂-, -CH₂-CH(OCOC₄H₉)-CH₂-, -CO-CH₂-, -CO-CH₂-CH₂-, -CH₂COCH₂-, -CH(Cl)-, -CH(Cl)-CH₂-, -CH₂-CH(Cl)-, -CH(NH₂)-, -CH(NH₂)-CH₂-,

-CH(N(CH₃)₂)-, -CH(N(CH₃)₂)-CH₂-, -CH₂-CH(N(CH₃)₂)-CH₂-CH(N(CH₃)₂)-CH₂-,
-CH(F)-, -CH(F)-CH₂-, -CH₂-CH(F)-CH₂-.

24. (Previously Presented): A compound according to claim 1, wherein Q is an unsubstituted, unbranched alkylene with 1-3 carbon atoms, -CH(OH)-CH₂- or -CH(OH)-CH₂-CH₂-.

25. (Previously Presented): A compound according to claim 1, wherein Z is -CH₃, -CH₂-CH₃, -(CH₂)₂-CH₃, -(CH₂)₃-CH₃, -(CH₂)₄-CH₃, -(CH₂)₅-CH₃, -(CH₂)₆-CH₃, -(CH₂)₇-CH₃, -CH₂-C(CH₃)₂-CH₂-CH₃, -CH₂-CH(CH₃)-CH₂-CH(CH₃)-CH₂-CH₃, -CH(OH)-CH₃, -CH₂-CH(OH)-CH₃, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-CH₃, -CH(OCH₃)-CH₃, -CH₂-CH(OC₂H₅)-CH₃, -CH₂-CH(OCOCH₃)-CH₂-CH(OCOCH₃)-CH₂-CH₃, -CH₂-CH(OCOC₄H₉)-CH₂-CH₃, -CH₂COCH₂-CH₃, -CH₂-CH(Cl)-CH₃, -CH₂-CH(N(CH₃)₂)-CH₂-CH(N(CH₃)₂)-CH₂-CH₃, -CH₂-CH(F)-CH₂-CH₃.

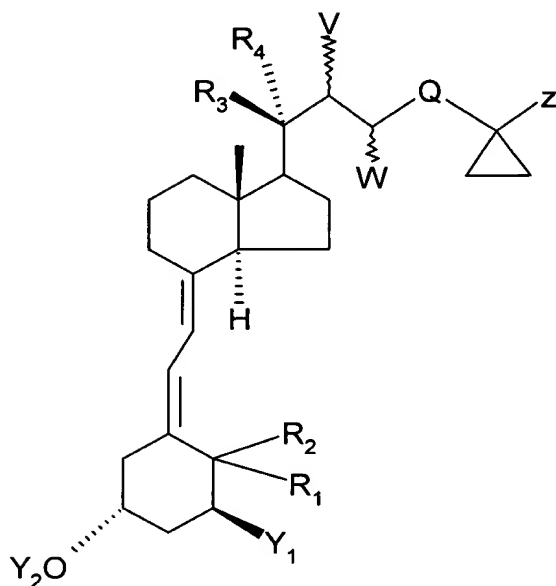
26. (Previously Presented): A compound according to claim 1, wherein Z is 1-oxoalkyl having 1-12 C atoms, alkyl having 1-12 C atoms or alkenyl having 1-12 C atoms.

27. (Cancelled):

28. (Previously Presented): A compound according to claim 26, wherein Z is 1-oxopropyl, 1-oxobutyl, 1-oxopentyl, 1-oxohexyl, 1-oxoheptyl, 1-oxooctyl, 1-oxononyl, 1-oxodecyl, acetyl, methyl, ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, 1-propenyl, 1-butenyl, 1-pentenyl, 1-hexenyl, 1-heptenyl, 1-octenyl, 1-nonenyl, or 1-decenyl.

29. (Previously Presented): A method of preparing a pharmaceutical composition comprising combining a compound according to claim 1 with a pharmaceutically compatible vehicle.

30. (Previously Presented): A vitamin D compound of formula I,



in which

Y_1 means a hydrogen atom, a hydroxyl group, a fluorine, chlorine or bromine atom or a group $-OCOR_8$, in which

R_8 is an aliphatic or aromatic radical with 1 to 12 C atoms,

Y_2 means a hydrogen atom or a group $-(CO)R_9$, in which

R_9 is an aliphatic or aromatic radical with 1 to 12 C atoms,

R_1 and R_2 are together an exocyclic methylene group,

R_3 and R_4 , independently of one another, mean a hydrogen atom or an alkyl group with 1 to 4 carbon atoms,

V and W together mean an E-double bond,

Q means an unsubstituted, unbranched alkylene unit with 1 or 2 carbon atoms, and

Z means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have keto groups, - or -hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms.

31. (Previously Presented): A compound according to claim 1, wherein Z is $-CH_3$, $-CH_2-CH_3$, $-(CH_2)_2-CH_3$, $-(CH_2)_3-CH_3$, $-(CH_2)_4-CH_3$, $-(CH_2)_5-CH_3$, $-(CH_2)_6-CH_3$, $-(CH_2)_7-CH_3$, $-CH_2-C(CH_3)_2-CH_2-CH_3$, or $-CH_2-CH(CH_3)-CH_2-CH(CH_3)-CH_2-CH_3$.

32. (Previously Presented): A compound according to claim 1, wherein Z is -

CH(OH)-CH₃, -CH₂-CH(OH)-CH₃, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-CH₃, -CH₂-CH(OH)-CH₂-CH₃, or -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-CH₃.

33. (Previously Presented): A compound according to claim 1, wherein Z is -CH(OCH₃)-CH₃, -CH₂-CH(OC₂H₅)-CH₃, -CH₂-CH(OCOCH₃)-CH₂-CH(OCOCH₃)-CH₂-CH₃, or -CH₂-CH(OCOC₄H₉)-CH₂-CH₃.

34. (Previously Presented): A compound according to claim 1, wherein Z is -CH₂COCH₂-CH₃, -CH₂-CH(Cl)-CH₃, -CH₂-CH(N(CH₃)₂)-CH₂-CH(N(CH₃)₂)-CH₂-CH₃, or -CH₂-CH(F)-CH₂-CH₃.

35. (Previously Presented): A compound according to claim 1, wherein Z is a 1-oxoalkyl group with 1-12 carbon atoms, an alkyl group with 1-12 carbon atoms, or an alkenyl group with 1-12 carbon atoms, in which the double bond can have E- or Z-geometry and can be present at any position.

36. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R)-25-Acetyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol, or

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol.

37. (Cancelled):

38. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R)-25-acetyl-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol, or

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol.

39. (Cancelled):

40. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R,24R)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-

9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,
 (5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-
 dihom-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,
 (5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-
 9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,
 (5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-
 9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol, or
 (5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-
 9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol.

41. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R,24S)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol, or

(5Z,7E,22E)-(1S,3R,24R)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol.

42. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R,24S)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol, or

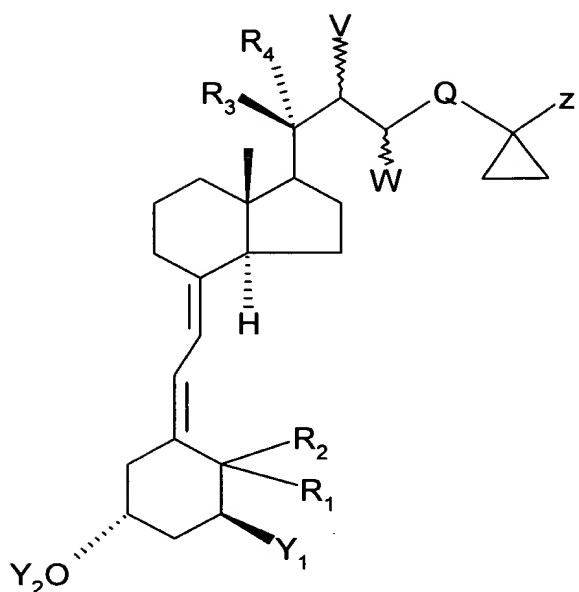
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol.

43. (Previously Presented): A compound according to claim 23, wherein Q is -CH₂-, -(CH₂)₂-, -(CH₂)₃-, -(CH₂)₄-, -(CH₂)₇-, -CH₂-C(CH₃)₂-CH₂-, -CH₂-CH(CH₃)-CH₂-CH(CH₃)-CH₂-, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-, -CH₂-CH(OH)-CH₂-, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-, -CH(OCH₃)-, -CH₂-CH(OC₂H₅)-, -CH₂-CH(OCOCH₃)-CH₂-CH(OCOCH₃)-CH₂-, -CH₂-CH(OCOC₄H₉)-CH₂-, -CO-CH₂-, -CO-CH₂-CH₂-, -CH₂COCH₂-, -CH(Cl)-, -CH(Cl)-CH₂-, -CH₂-CH(Cl)-, -CH(NH₂)-, -CH(NH₂)-CH₂-, -CH(N(CH₃)₂)-, -CH(N(CH₃)₂)-CH₂-, -CH₂-CH(N(CH₃)₂)-CH₂-CH(N(CH₃)₂)-CH₂-, -CH(F)-, -CH(F)-CH₂-, -CH₂-CH(F)-CH₂-.

44. (Previously Presented): A compound according to claim 26, wherein Z is alkyl having 1-12 C atoms or alkenyl having 1-12 C atoms.

45. (Previously Presented): A compound according to claim 44, wherein Z is methyl, ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, 1-propenyl, 1-butenyl, 1-pentenyl, 1-hexeynyl, 1-heptenyl, 1-octenyl, 1-nonenyl, or 1-decenyl.

46. (Presently Presented): A vitamin D compound of formula I,



in which

Y_1 means a hydrogen atom, a hydroxyl group, a fluorine, chlorine or bromine atom or a group $-OCOR_8$, in which

R_8 is an aliphatic or aromatic radical with 1 to 12 C atoms,

Y_2 means a hydrogen atom or a group $-(CO)R_9$, in which

R_9 is an aliphatic or aromatic radical with 1 to 12 C atoms,

R_1 and R_2 are together an exocyclic methylene group,

R_3 and R_4 , independently of one another, mean a hydrogen atom or an alkyl group with 1 to 4 carbon atoms,

V and W together mean an E-double bond,

Q means a straight-chain or branched carbon unit with up to 10 carbon atoms, which at any position can have α - or β -hydroxyl groups, which in turn can be etherified or esterified, keto groups, amino groups or halogen atoms,

Z means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have keto groups, α - or β -hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms

wherein Q is not either -CHOH- or -CHOH- in which the OH group is esterified.

47. (Previously Presented): A compound according to claim 46, wherein Q is
-CH₂-, -(CH₂)₂-, -(CH₂)₃-, -(CH₂)₄-, -(CH₂)₇-, -CH₂-C(CH₃)₂-CH₂-,
-CH₂-CH(CH₃)-CH₂-CH(CH₃)-CH₂-, -CH₂-CH(OH)-, -CH₂-CH₂-CH(OH)-, -CH(OH)-CH₂-,
-CH(OH)-CH₂-CH₂-, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-, -CH₂-CH(OH)-CH₂-,
-CH₂-CH(OH)-CH₂-CH(OH)-CH₂-, -CH(OCH₃)-, -CH₂-CH(OC₂H₅)-, -CO-CH₂-,
-CO-CH₂-CH₂-, -CH₂COCH₂-, -CH(Cl)-, -CH(Cl)-CH₂-, -CH₂-CH(Cl)-, -CH(NH₂)-,
-CH(NH₂)-CH₂-, -CH(N(CH₃)₂)-, -CH(N(CH₃)₂)-CH₂-, -CH₂-CH(N(CH₃)₂)-CH₂-
CH(N(CH₃)₂)-CH₂-, -CH(F)-, -CH(F)-CH₂-, -CH₂-CH(F)-CH₂-.

48. (Previously Presented): A compound according to claim 47, wherein Q is
-CH₂-, -(CH₂)₂-, -(CH₂)₃-, -(CH₂)₄-, -(CH₂)₇-, -CH₂-C(CH₃)₂-CH₂-,
-CH₂-CH(CH₃)-CH₂-CH(CH₃)-CH₂-, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-,
-CH₂-CH(OH)-CH₂-, -CH₂-CH(OH)-CH₂-CH(OH)-CH₂-, -CH(OCH₃)-, -CH₂-CH(OC₂H₅)-,
-CO-CH₂-, -CO-CH₂-CH₂-, -CH₂COCH₂-, -CH(Cl)-, -CH(Cl)-CH₂-, -CH₂-CH(Cl)-,
-CH(NH₂)-, -CH(NH₂)-CH₂-, -CH(N(CH₃)₂)-, -CH(N(CH₃)₂)-CH₂-,
-CH₂-CH(N(CH₃)₂)-CH₂-CH(N(CH₃)₂)-CH₂-, -CH(F)-, -CH(F)-CH₂-, -CH₂-CH(F)-CH₂-.

49. (Cancelled):

50. (Cancelled):